

99. *Delias?* *d'Albertisi*.

♂. *Pieris d'Albertisi*, Oberthür, Ann. Mus. Civ. Genova, xv. p. 480, pl. iv. fig. 4 (1879-80).

♀. *Delias discus*, Honrath, Berl. ent. Zeit. xxx. p. 130, pl. iv. fig. 4 (1882).

New Guinea.

A curiously coloured species, vaguely resembling *Tenaris* and *Dyctis*.

Since the completion of this Revision Mr. Grose Smith has described three additional species in the Ann. & Mag. Nat. Hist. for April, 1897, p. 403.

XIV.—Notes from the Gatty Marine Laboratory, St. Andrews.
—No. XVIII. By Prof. M'INTOSH, M.D., LL.D.,
F.R.S.

[Plate III.]

1. On the Phosphorescence of *Gattyana* (*Nychia*) *cirrosa*, Pallas.
2. On a new *Evarne* (*E. atlantica*) from Rockall.
3. On the British Species of *Pholoë*.
4. On a Collection of Annelids made by Canon Norman in Norway.
—Part I. New *Evarne* and Two Species of *Sthenelais*.

1. *On the Phosphorescence of Gattyana* (*Nychia*) *cirrosa*,
Pallas.

The alteration of the generic name of this not uncommon species, as Dr. Merle Norman has shown in a carefully prepared manuscript on the subject, which I have had the privilege of perusing, is necessary, since the name *Nychia*, given to it by Malmgren in 1865, had already been used by Stål for one of the Hemiptera.

G. cirrosa has long been known as a commensalistic Polynoid in the tubes of *Chaetopterus*. Hitherto, however, the specimens of this annelid on the East Coast have chiefly been procured after storms or from deep water. Lately they have been frequently found as commensalistic forms in the tubes of *Amphitrite debilis*, Dalyell (*Johnstoni*, Mgrn.), and of comparatively large size. The fact that such species as *Polynoë scolopendrina*, habitually found in the tubes of *Terebellæ*, are phosphorescent suggested experiment in the present instance, with the result that *G. cirrosa* was also found to possess this property. Irritation in the dark causes the scales to gleam

with a pale yellowish light, often extremely faint, and thus in contrast with *Harmothoë imbricata* and *Polynoë scolopendrina*, in which the phosphorescence is more vivid. As a rule *Gattyana* occupies a position close to the mouth of the long tube of the *Amphitrite* beneath large stones near low-water mark, so that it is well protected from marauders, even supposing they were attracted by its light. In the same way its opportunities for alluring other animals are curtailed; so that the remarks formerly made in this connexion still hold.

2. *On a new Evarne (E. atlantica) from Rockall.*

A fragment of about fifteen segments of the anterior end was dredged at Station III. A by the Royal Irish Academy's expedition on 15th June, 1896.

The head resembles that of *E. impar*, Johnst., in general outline, but differs in having somewhat smaller eyes. The tentacles and palpi also are similar, though the cilia on the former and the minute papillæ on the latter are less bold. The cirri generally are a little more slender.

The body is thicker and more massive than in *E. impar* of the same size, and both dorsally and ventrally in the preparation has a pinkish skin-colour. The arrangement of the bristles at the side of the body is more trim. No nephridial papilla is observable, though the eminence is distinct. In this respect it agrees with *E. impar* of the same size, in which the papilla only becomes noticeable about the twelfth bristled foot. In large examples it is evident on the seventh bristled foot.

The first foot (bearing the tentacular cirri) has a few short bristles conforming to the dorsal type, though with somewhat closer rows of spines. In the second foot the dorsal bristles are longer and less curved than in *E. impar*, and while there may be room for doubt concerning the proportionate distances of the spinous rows, there can be none about the length of the smooth portion at the tip, which is diagnostic of this form and also of *Evarne Normani*. The present species differs from the latter again in the more tapering extremities of these bristles and in the closer rows of spines (*cf.* figs. 11 and 13, Pl. III.). The spinous tips of the ventral series are somewhat longer than in *E. impar*, and in this respect approach *E. Normani*.

In the typical foot the lower lobe is more pointed and the ventral cirrus longer than in *E. impar*, so that it projects as far as the tip of the foot. The translucent dorsal bristles (Pl. III. fig. 11) are considerably longer and less curved

than in the typical species and their rows of spines much closer, and the latter character also distinguishes them from *E. Normani*. The ventral bristles (Pl. III. fig. 12) approach those of the latter species more closely than those of *Evarne Johnstoni*, being somewhat shorter than those of *E. Normani*, which, again, have stronger tips than those of *E. Johnstoni*.

No scales are present. In all probability they approach those of *E. Normani*.

By the lengthening of the tips of the ventral bristles and their general slenderness this species and *E. Johnstoni* come near *Antinoë* and allied forms.

3. On the British Species of *Pholoë*.

To judge from the literature at present available, three species of *Pholoë* seem to be found in Britain, viz. *P. minuta*, Fabr., *P. inornata*, and *P. eximia*, G. Johnston. As indicated for many years, however, it would appear that the two latter merit only the position of varieties of the former.

In the typical British example the head is somewhat rounded and bears a subulate median tentacle with a few papillæ on its surface. Two (connate) eyes occur on each side, the anterior being the larger. Two short tentacular cirri, also with minute papillæ on the surface, are placed laterally. Two prominent papillæ project behind the eyes and sometimes overlap them. The palpi are rather massive tapering organs with a smooth surface. The body is small, composed of 45 to 70 segments, and reaching about $\frac{3}{4}$ inch in length as a maximum*. Posteriorly are two slender caudal styles. It is more tapering posteriorly than anteriorly in small specimens. The dorsum is slightly convex, the ventral surface flattened, with a median groove in the preparations. In life the dorsum is of a pale pinkish colour, grained with brownish on some of the scales. A reddish mark occurs in front with a dark greyish patch behind. As Dr. Johnston observes, some are of a yellowish-brown colour, dusky along the sides. The scales are ovate or reniform, with a series of cilia having moniliform tips along the outer border, and more sparsely along the posterior edge, while the tissue, especially at the inner region, is areolated. The dorsal lobe of the foot forms a prominent process, with a convex margin externally for the dense tuft of bristles, which are slender, tapering, and spinous. Ventral lobe an oblique cone, with numerous

* De Quatrefages mentions one of 68 segments and 45 pairs of scales.

papillæ over the surface. The stout shafts of the bristles have numerous spikes on the distal convexity. The terminal piece is short and falcate and the edge is spinous. The ventral cirrus is short and tapering.

The proboscis forms a short muscular organ, with teeth, as in the Sigalionidæ, biting to the left, and nine short but distinct papillæ along each arch. Moreover, in extrusion two papillæ are situated just behind the lateral furrow separating the dorsal and ventral arches. A median and two lateral elevations are also present in the basal region dorsally.

Thus far there are few divergencies; but when we come to the condition of the scales in the several races, such variations occur as have been thought worthy of specific distinction by several authors. Yet the gradations from the Arctic to the southern form appear to be of such a nature that it is deemed prudent to adhere to the decision already mentioned, viz. to make only one species.

In the variety *inornata* of Dr. George Johnston the first pair of scales are somewhat rounded, as if an isosceles triangle had its corners smoothly removed. The scar for the elytophore is situated nearer the posterior than the anterior border. The latter has numerous short clavate cilia along its edge to the number of about 15, while the posterior margin has about 9 larger cilia, somewhat moniliform in outline—from constrictions. The surface of the scale anteriorly has also a row of cilia running within those on the border, and, besides, a few are scattered over the area in front of the scar. All the cilia have traces of palpcils at the tip. Only the inner border of the scale is thus smooth.

In contrast with the first scale of the typical *Pholoë minuta*, Fabr., from Greenland, the foregoing has fewer cilia. Thus there are upwards of 40 along the anterior border of the Arctic form and 12 proportionally shorter cilia than in the var. *inornata* along the posterior edge. Moreover, these organs are more numerous on the surface in front of the scar.

The shape in the second pair in var. *inornata* becomes transversely elongated, with an anterior incurvation. The moniliform cilia along the posterior edge are more numerous, while the smaller cilia on the outer edge are fewer, and the same may be said of those on the surface.

The succeeding scales are irregularly rounded and have a somewhat straight external border, which has moniliform cilia, while those along the posterior border are few and widely separated. The scale is areolated, especially towards its inner border, which, along with the anterior edge, is smooth.

In comparing the large broad anterior scales with those

from Greenland and Canada (*P. minuta*, Fabr.), comparatively little difference is observed, both having from 18 to 23 moniliform cilia externally.

The posterior scales in var. *inornata* become still more elongated transversely, have only about 6 of the larger moniliform cilia on the abbreviated external border as well as the posterior edge.

On the whole, therefore, the study of the scales supports the view that *P. minuta*, Fabr., and Dr. Johnston's *P. inornata* are the same species.

In the variety *eximia* of Dr. Johnston the first pair of scales are similar in shape to the foregoing, though from the smaller size of the examples they are considerably less. The outer border has a series of longer cilia, fewer in number, but similar in structure. They encroach somewhat on the anterior border, or, rather, a few of the isolated cilia scattered over the surface project beyond the edge. None of the smaller clavate cilia so characteristic of the two foregoing varieties are present on this edge. The large isolated cilia occur both externally and posteriorly to the scar for the elyrophore. The second pair of scales are distinguished by the greater length of the cilia on the outer border. A few also occur along the posterior edge.

The succeeding scales of the anterior third do not differ much in shape from those of *P. minuta*, but the cilia are much longer and stand stiffly out on the external margin and the outer half of the posterior edge. They are less numerous than in the large examples of *P. inornata*, but agree with the smaller in this respect. The posterior scales have about the same number of cilia as *P. inornata*, but they are stiffer and longer. *P. eximia* is distinguished externally from *P. inornata* in spirit by the olive spot with a pale centre in each scale at the scar for the elyrophore. Occasionally in certain forms of *eximia*, e. g. from Lochmaddy, North Uist, the cilia on the scales are fewer, longer, and without the terminal enlargement.

The second foot (first bristled) in *P. inornata* is bifid, with two well-developed spines. The dorsal lobe forms a rounded eminence with a smooth surface, from which project the comparatively short, slender, minutely spinous bristles, with a very fine hair-like tip. The inner forms taper more abruptly than the outer, and the tips are often bent nearly at right angles to the base. The ventral lobe is longer, bluntly conical, and with numerous small papillæ on its surface. The ventral bristles have stout shafts, dilated at the tip, and with numerous rows of spines on the convex margin, thus differing

from those of the Arctic examples, in which they are fewer. The falcate distal region forms an elongate process, hooked at the tip, and with a series of spines along the ventral edge. The corresponding bristles of *P. minuta* show a more robust and proportionally shorter tip.

In the typical foot the dorsal lobe presents a prominent process and a broad slightly convex margin externally for the bristles, the spine piercing the apex of the convexity. The bristles form a dense tuft directed outwards and downwards, are slender, tapering, and with well-marked spinous rows. The ventral lobe, again, forms an oblique cone, with the spine issuing from the apex and the surface covered with numerous papillæ. The shafts of the bristles are somewhat shorter and stouter than in the northern form (*P. minuta*), and the convex edge of the tip has more numerous spikes than in the latter form. The falcate tip in the Arctic examples is shorter, more curved—that is, the hook is more pronounced—and the spines along the edge are often absent. Posteriorly the dorsal bristles have finer spines and the ventral have fewer spikes on the convex distal region of the shaft, while the terminal falcate portion is proportionally longer and more slender. The papillæ on the surface of the ventral division are less numerous and somewhat longer. The ventral cirrus is short and tapering, with a few short clavate cilia on its surface.

In considering these several forms, therefore, it is clear that no reliable specific distinction can be drawn from the structure of the bristles, and this is probably more important than the condition of the cilia on the scales. It is true that the convexity of the end of the shaft is most spinous—that is, has a longer series of spines from above downwards—that the dorsal bristles are more distinctly spinous, and the ventral warts or papillæ more conspicuous in *P. inornata*; but the characters are not new and only vary in degree, and may be due to the surroundings, with which, perhaps, we are not fully acquainted. The steps from var. *eximia* to var. *inornata*, and thence to the typical *minuta*, are easy both as regards scales and bristles.

4. *On a Collection of Annelids made by Canon Norman in Norway.*—Part I. *New Evarne and Two Species of Sthenelais.*

Some years ago Dr. Merle Norman kindly sent for examination a series of Norwegian Annelids which he had procured in 1879 by dredging at the following localities, viz. :—

- Stations 28 and 31.—Off Sponholmene, Lervig, 130 fath.
 „ 29.—Ibid., 100 fath.
 „ 30.—Lervig Bay, 3-25 fath.
 „ 32.—Between Valedin and Hidle, Lervig, 110 fath.
 „ 33 and 34.—Off Lervig, 150-180 and 210 fath.
 „ 36.—Off southern point, Huglin Island, Hardanger Fjord, 100 fath.
 „ 37.—Off Hidle Island, Hardanger Fjord, 40-50 fath.
 „ 38.—Off Sponholmene, Lervig, 40-100 fath.
 „ 40.—Between Huglin and Halsenö, Hardanger Fjord, 120-190 fath.
 „ 40*.—Ibid., 2 fath.
 „ 41.—Stoksund, Hardanger Fjord, 80-100 fath.
 „ 42.—Stoksund (mid-channel), Hardanger Fjord, 40-80 fath.
 „ 44.—Off Drobäk, Christiania Fjord, 30-100 fath.
 „ 45.—Dead *Lophohelia* ground, Drobäk, 6-14 fath.

The Norwegian fjords have long been classic grounds to the investigator of the Annelids, chiefly from the labours of the elder and younger Sars, but also of Hansen, Appellöf, and others; and accordingly the collection possessed great interest, especially by way of contrast with those of the British seas. Amongst other features of note is the comparative frequency of *Euphrosyne cirrata*, Sars, and *E. armadillo*, Sars, both of which seem to frequent the deeper water of the fjords, whereas the common British form is found most abundantly between tide-marks in the Channel Islands. Only small examples of *Aphrodita aculeata* and *Lætmatonice flicornis*, Kinberg, occur, probably because the area of the larger forms had been untouched. In the same way the small size of the specimens of the ubiquitous *Lepidonotus squamatus*, L., contrasted with the large tidal forms of the east coast of Scotland. No more characteristic inhabitants of the fjords could be procured than *Dasylepis asperrima*, Sars, and *Eucrante villosa*, Mgrn., both of which were in fine condition and apparently by no means rare. The former has hitherto been found in Britain only in the Clyde district (*Dr. David Robertson*), while the latter is unknown in our seas. The frequency of *Lagisca antennata*, Grube, and of the British *Evarne Johnstoni*, McL., merit notice, for the latter is one of the rarest forms from deep water in our country. Moreover, by the aid of additional specimens it became evident that another form procured along with the foregoing in the 'Porcupine' Expedition of 1870 merits special notice, if not specific distinction. In *Evarne Johnstoni*, McL.*, the eyes are distinctly smaller than in *E. impar*, Johnst., and the

* Trans. Zool. Soc. ix. p. 398.

anterior pair are usually so situated that they are invisible from the dorsum until the head is placed obliquely, whereas in *E. impar* both are visible from the dorsum. The deep brownish purple of the dorsum and the longer dorsal bristles are also diagnostic.

The form above mentioned, a fragment of which occurred with *E. Johnstoni* at 690 fathoms in the 'Porcupine' Expedition of 1870, is considerably larger and is distinguished by the very large eyes, both of which are conspicuous from the dorsum, and by the firm outwardly directed peaks in front. The dorsal bristles are longer and stronger, are less curved, more acutely pointed at the tip, and with a distinct bare portion, while the rows of spikes are narrow, all these characters differing from those of *E. Johnstoni*. The ventral bristles, again, have more robust shafts and longer spikes in the rows on the tips. That these characters are not due to age is clear by comparing specimens of the same size, the stronger dorsal bristles with their pointed tips being marked in the smallest example of the new form, on the bristles of which an elongated *Loxosoma* is common. We do not yet know the sexual changes in these forms, but, so far as observed in others, *e. g.* in *Evarne impar*, no such modifications of the eyes and bristles occur.

Only one of the specimens had scales, and unfortunately they had been dried. The surface is striolated with minute conical spines, which are best developed externally and posteriorly, and, moreover, there are moderately long cilia along the external and posterior border. The inner anterior edge is free from the spines or cilia. The scales thus closely resemble those of *E. Johnstoni*.

A comparatively frequent species in the collection is *Sthenelais limicola*, Ehlers, but this is a very widely distributed form. The size agrees with that of the British examples. Two additional species of *Sthenelais* appear to be fairly abundant, *viz.* *Sthenelais Sarsi**, from the Hardanger Fjord at depths varying from 40 to 190 fathoms. It is a comparatively small species, probably between 2 and 3 inches, rather less than *S. limicola*, but, like it, inhabiting mud or muddy sand.

The head is rounded, with a slender median tentacle arising anteriorly, shorter than in *S. limicola*, and with a ctenidium at each side of the basal region ("ceratophore," *Pruvot and Racovitza*). The eyes are prominent, the larger anterior pair rounded and looking forward, the posterior semicircular or

* Named after the late Prof. M. Sars of Christiania.

moon-shaped. They are smaller than those of *S. limicola*, and the pairs on each side nearer each other. The palpi are very long and slender. The first pair of feet and the parts amalgamated with them agree with the typical form.

The body is slender and elongated, tapering to the vent on the tip of the tail dorsally. The only complete example had about 80 bristled segments, and in spirit measured an inch and a half. The feet are prominent, but the nephridial eminence is indistinct and devoid of a papilla. The scales are thin, somewhat translucent, and entirely cover the dorsum—indeed, they overlap considerably. The first pair are small, ovate in outline, and have the margin surrounded by a series of short clavate cilia, while the surface is studded with small conical papillæ. The typical scale (Pl. III. fig. 5) is more or less reniform, and, with the exception of the anterior portion of the inner border and the anterior margin, the circumference has a close series of clavate cilia, which are largest on the external border and diminish before disappearing from the inner edge. The entire surface of the scale is dotted with the minute conical papillæ. Posteriorly the chief changes are the diminution in the size of the scale, its shorter and broader reniform outline, its greater translucency, the reduction in number and size of the cilia on the external and posterior border, and the paucity of the conical papillæ on the surface. The scales thus differ from those of known species.

The first foot has a single spine, and bears the dense tufts of bristles conforming to the dorsal type, but somewhat stronger than those of the typical foot. The second foot has curved dorsal bristles springing from a division a little less prominent than the ventral, and with several lobulated papillæ ("stylodes," *Pruvot and Racovitza*) at its tip, each bristled with stout clavate cilia. The ventral lobe is massive, with several blunt clavate papillæ. The upper bristles have numerous rows of spines on the convexity at the end of the shaft, and long, slender, six- or seven-jointed distal pieces with a minutely bifid tip, such bristles thus conforming to the inferior ventral series in the typical foot. The stronger bristles in the middle of the foot have distal pieces of two joints, while inferiorly the bristles again become slender and the terminal pieces longer, while the rows of spikes on the end of the shaft are fewer. The ventral cirrus is subulate and smooth. In the typical foot the dorsal curve bears three top-shaped ctenidia, and a group of clavate papillæ bristled with minute clavate cilia project from the tip of the dorsal division. The bristles are long, tapering, and slender, their tips extending beyond those of the inferior division. The ventral lobe like-

wise has several clavate papillæ similarly ciliated (Pl. III. fig. 1), and its bristles are characterized by their strength and the shortness of the terminal pieces. The shafts of the bristles, moreover, diminish in strength from above downwards, as seen by contrasting the second upper bristle (Pl. III. fig. 2) and the adjoining series (Pl. III. fig. 3) with that from the inferior series (Pl. III. fig. 4), those at the ventral edge being less than half the diameter of the upper. The rows of spikes on the distal convexity of the shafts likewise decrease in number from above downwards. The stout superior bristles have terminal pieces of two or three divisions and a well-marked claw and secondary process at the tip. Towards the inferior edge the terminal pieces lengthen, and three divisions are present, the tips of all being bifid.

The specimens, which were captured in July, were laden with large ova.

In his list of the Annelids of the "Osterfjorden" Dr. Appellöf* includes *Sthenelais atlantica*, McI.†; but this species, while approaching the Norwegian in regard to the scales, wholly diverges, for instance, in the minute structure of the bristles in the ventral division of the foot.

The other species—*Sthenelais heterochæta*—has a similar range in depth, viz. from 40 to 180 fathoms.

The head is somewhat rounded, with prominent lateral lobes separated by an *x*-shaped central region, eyeless in the preparations. The median tentacle arises from the anterior border, is proportionally larger and longer than in *Sthenelais limicola*, and ends in a filiform tip. The lateral tentacles are considerably shorter, but also have an attenuate tip. The superior tentacular cirrus is about the length of the median tentacle, but the ventral is considerably shorter. The ciliated process ("cuilleron," *Pruvot and Racovitza*) is tongue-shaped. The palpi are even longer and more tapered than in *S. limicola*. The first foot (having the foregoing processes) presents a prominent ctenidium dorsally.

The body is larger than in *S. limicola* and apparently longer, but no example is complete, though more than 100 segments are present in the most perfect, which wants a considerable portion of the tail. It is rounded dorsally, flattened ventrally, and is covered by the translucent scales and gently tapered towards the posterior end. A nephridial eminence is present, but no papilla. The proboscis has two oblique dorsal ridges starting from within outwards at the commencement of the distal fourth, and traces of similar

* Bergens Museum Aarbog, no. xiii. p. 10.

† Trans. Zool. Soc. ix. p. 405.

elevations ventrally. Eleven papillæ occur along its free edge in extrusion, and besides a pair at each lateral angle. The upper teeth bite to the left of the lower. The first pair of scales are rounded, the rest more or less reniform, the anterior four being more or less rounded (Pl. III. fig. 6). Their surface is smooth and they are thin. Along their external margin are ten or twelve long slightly tapered cilia, the shorter forms being anterior. In the posterior scales the cilia diminish to two or three, those left being near the anterior border. They may even disappear in the terminal scales.

The typical feet bear the branchial process superiorly and three top-shaped ctenidia along the upper edge. The dorsal lobe is somewhat clavate, bevelled at the tip superiorly, with three terminal and two adjacent papillæ (stylodes). The long dorsal bristles form a dense group, slender and finely tapered. They constitute a series of pencils, curved boldly upwards on each side. They are very finely serrated, as in *S. Jeffreysii*. The ventral division of the foot is somewhat conical at the tip and has two smooth papillæ—one springing from a broad process—near the point of the spine. The upper ventral bristles (Pl. III. fig. 7) are two or three in number, the distal end of the shaft having nine or ten rows of spines, and a terminal piece tapering to a hair-like point and possessing nearly a dozen pseudo-articulations. These tips are much shorter than the next in succession, which form a dense group of bristles with long shafts slightly enlarged at the end, and with a few (two or three) serrations in the upper examples, the rest being smooth. The tips are all very long (eighteen to twenty pseudo-articulations) and with a hair-like extremity. The next series possess a stronger and more distinctly curved shaft and a terminal piece of a single articulation, bifid at the tip and with a secondary piece, like a bird's beak (Pl. III. fig. 8). The terminal pieces increase in length inferiorly, the last showing an indication of a second articulation towards the tip. It is in this row that the greatest divergence is noticed when contrasted with the Irish form (*Sthenelais Jeffreysii*, McL.), since several in the latter present three distinct articulations in the terminal piece. A membranous flap and a long papilla mark the next series, which have similar shafts, but their tips are tapering articulated processes ending in a hair-like extremity as in *Leanira*. Each (Pl. III. fig. 9) has more than a dozen articulations. Lastly, from the special area ventrally spring a series with more slender shafts and five- to six-jointed terminal pieces ending in a minutely bifid tip (Pl. III. fig. 10). Internal to the subulate ventral cirrus is a top-shaped ctenidium.

This species closely approaches *Sthenelais Jeffreysii*, McL., but the marked characters of the bristles of the ventral division of the foot distinguish it, and once more demonstrate, what some are so slow to admit, the value of a careful study of these organs along with other characters. Step by step the differentiation is thus made clear. Dr. Appellöf probably refers to this species in the list before mentioned under the name *S. Jeffreysii*, and, indeed, it would have been difficult for him to distinguish them.

Euphrosyne cirrata, Sars. Stations 29, 33, 40, 41.

— *armadillo*, Sars. Station 36.

Aphrodita aculeata, L.

Lætomotone filicornis, Kbg.

Lepidonotus squamatus, L. Stations 30, 36.

Gattyana (Nychia) cirrosa, Pall. Station 32.

Dasylepis asperrima, Sars. Stations 29, 30, 45.

Lagisca floccosa, Sav. Station 45.

— *antennata*, Grube. Stations 32, 36, 41.

Harmothoë imbricata, L. Station 40**.

Evarne impar, Johnst. Stations 30, 44, 45.

— *Johnstoni*, McL. Stations 30, 32, 33, 34, 41, 44.

— *Normani*, sp. n. Ibid.

Antinoë Sarsi, Kbg.

Eucrante villosa, Mgrn. Stations 33, 34, 44.

Sthenelais limicola, Ehlers. Stations 30, 44.

— *Sarsi*, sp. n.

— *heterochæta*, sp. n.

Leanira tetragona, (Erst.

EXPLANATION OF PLATE III.

Fig. 1. Papillæ with clavate cilia at the tip from the upper region of the ventral division of the foot of *Sthenelais Sarsi*, sp. n. × 350.

Fig. 2. Bristle of the upper ventral series of the same. × 350.

Fig. 3. Bristle of the adjoining series (immediately beneath). × 350.

Fig. 4. Bristle from the inferior ventral series of the same. × 350.

Fig. 5. Scale of the foregoing species. × 24.

Fig. 6. Anterior (and therefore more rounded) scale of *Sthenelais heterochæta*. × 24.

Fig. 7. Superior ventral bristle of the same. × 350.

Fig. 8. Median ventral bristle, with a single terminal segment. × 350.

Fig. 9. Bristle of the group following the former, and after the pattern of those in *Leanira*. × 350.

Fig. 10. More slender bifid bristle from the ventral edge. × 350.

Fig. 11. Dorsal bristle of *Evarne atlantica*, sp. n. × 350.

Fig. 12. Median (below spine) ventral bristle of the same. × 350.

Fig. 13. Tip of a dorsal bristle of *Evarne Normani*. × 350.